

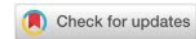
THE ROLE AND SIGNIFICANCE OF HARMFUL HABITS AND HERITABLE FACTORS IN THE DEVELOPMENT OF CHRONIC VASCULAR DISEASES

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Abstract: Chronic Arterial Insufficiency of the Limb is a condition of chronic reduction of blood flow delivered from the arteries to a limb. It is also known as Peripheral Arterial Disease (PAD). The most commonly affected are the aorto-iliac segment and the arteries of the lower extremities. The most common causes are diabetes and / or atherosclerosis, but the bad habits and heredity are also important. The varicose disease is a process of superficial venous dilatation of the lower extremities. The most important reason of chronic venous disease is correlated with hereditary factors and the bad habits. The secondary varicose is caused by malformations, traumatism and deep vein thrombosis. The lymphedema is a chronic disease, manifested by slowly progressing edema of the skin and skin. Due to the reduction of the transport function of the lymphatic system – the flow of lymph slows that leads to an increase in fluid in the intercellular space- edema. May affect any part of the body, but most often are affected one of the upper or lower limb.

Purpose: evaluation of the bad habits and the hereditary factors as a reason for chronic vascular diseases.

Methodology: for the purpose of this study a new anonymous questionnaires were created.

Results: this study includes patients with chronic vascular diseases and was made in university hospital – clinic of Vascular surgery and in healthcare medical center.

Conclusions: The bad habits and the hereditary factors are the main reason for development of chronic vascular diseases.

Keywords: *venous disease; PAD; atherosclerosis; bad habits; hereditary factors.*

Field: Medical sciences and Health

INTRODUCTION

Vascular diseases provoke a serious research interest aimed at revealing the relationships between the origin and course of the disease and the psychogenic elements involved in the overall disease process (Кримова-Пешева, & Пешев, 2020). According to the WHO, chronic diseases are defined as "any disorder or abnormality that has one or more of the following characteristics: permanent, causing disability, resulting from irreversible pathological changes, requiring rehabilitation treatment, or expected to require long-term supervision or care. Chronic Arterial Limb Insufficiency is a condition of chronic reduction of blood delivered from the arteries to a limb. It is also known as Peripheral Arterial Disease (PAD). The main clinical symptoms of PAD are a pain in the limb when traveling a certain distance, which progressively decreases with the development of the disease, the so-called "claudicatio intermitens", trophic skin changes, atrophy of the muscles and difficult of wounds healing. The pain seriously provokes anxiety oft ambiguity and uncertainty. This is one of the main existential threats that the patient has difficulty coping with mentally (Кримова-Пешева, & Пешев, 2017). The pain causes the patient to regress to early childhood reactions and behaviors, seeking solace and care (Кримова-Пешева, Гиров, & Пешев, 2012). Pathological mental reactions are a paradoxical way of not accepting the real facts of amputation and seriously impede the mental and physical patients' recovery (Кримова-Пешева, & Пешев, 2017).

The most common chronic venous diseases disease is varicose. About 41% of patients in Bulgaria over the age of 18 have chronic venous disease (Гиров, 2019). Almost every second adult in Europe suffers from a venous disease. Only 15% of cases are considered risky for the patient. The spectrum of venous diseases ranges from venous telangiectasias to chronic varicose veins and sometimes fatal end, such as venous thromboembolism. In vascular surgery, varicose veins are extremely important. Any varicose change leading to symptoms such as swelling or ulceration of the lower extremities is subject to surgical treatment (Agus et al, 2001). The chronic venous disease is a very common problem, and

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varicose veins affect more than 25 million adults in the United States (Barwell et al, 2004). Due to the high prevalence of varicose veins and Chronical Venous Insufficiency (CVI), a national screening program has been established in the United States. The program identified varicose veins in 32% of participants (Beebe-Dimmer et al, 2005).

Chronic lymphedema is a permanent and evolving increase in the volume of a certain part of the body caused by lymphatic stasis due to congenital or acquired changes in the lymphatic system. As a result of these anomalies or changes in the lymphatic system, lymphatic drainage failure occurs. The result of these changes is a mild edema (swelling), which increases progressively.

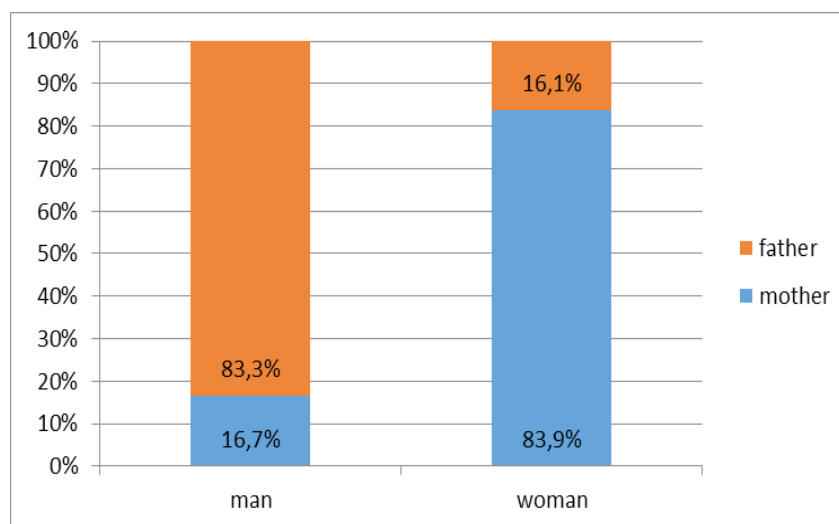
In order to minimize the harmful effects of immobilization, due to the reduced motor activity, the circumstances that can lead to the development of chronic vascular disease should be limited. Decreased motor activity in chronic vascular disease leads to bad changes in blood circulation: reduction of number of reserve capillaries, reduced blood flow, changes in the elasticity of blood vessels and edema. The increased physical activity and the reduction of harmful habits and heritable factors aims to reduce edema in chronic venous insufficiency (CVI) and chronic lymphedema, and to improved perfusion in patients with chronic arterial insufficiency.

MATERIALS AND METHODS

The current study included 80 patients from different age groups. Anonymous questionnaires were prepared for the purpose of the study. The category variables are presented as the absolute number and relative share of each of their categories, and the quantitative variable (age) - as the median and scope, as its distribution differs significantly from the Gaussian. The arithmetic mean is given for completeness and easier understanding by a wider audience. The Kolmogorov-Smirnov test was applied to verify the form of the distribution. When looking for connections between categorical variables (influence of gender, place of residence, education on patient awareness; connections between the individual questions in the survey), a hi-square analysis was applied. Non-parametric Mann-Whitney and Kruskal-Wallis tests were used to compare mean (median) age values of individual patient categories. Values of $p < 0.05$ are considered significant, and those between 0.05 and 0.1 are considered marginal significant.

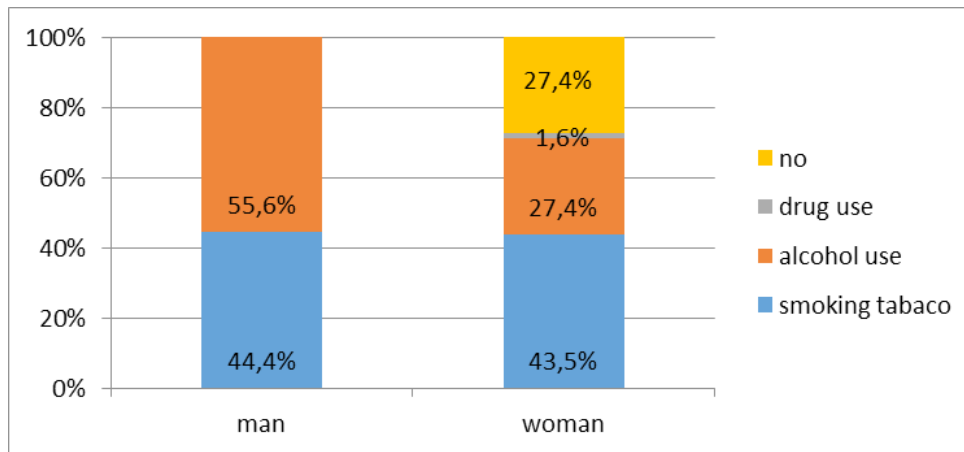
RESULTS

80 patients were interviewed. The median age was 48.5 years, with the youngest participant being 28 and the oldest 72. The arithmetic mean age was 49.8 g. Among patients, women had a large predominance, 77.5% compared to only 22.5% men. Respondents live mainly in cities - 62.5%, while in the villages are only 37.5%. Over two thirds of the respondents (68.8%) reported a family heredity on the part of the mother, and another 31.1% reported it on the part of the father. It was proved that in men the family heredity is significantly more often on the father's side, while in women - more often it is on the mother's side ($p < 0.001$) (Pic. 1).



Pic. 1. Distribution of answers to the question “Family heredity “ by gender (relative share)

It is interesting to note that bad habits are significantly more common among men - in the survey there is no man who answered that none of the three listed bad habits, while in women they are 27.4%. The number of smokers between the sexes is similar (about 44%), but the difference is due to alcohol use - it is significantly more common among men (55.6%) than among women (27.4%). = 0.037. Smoking is the most commonly reported harmful habit associated with the disease (43.8%), followed by alcohol use (33.8%), and one patient (1.3%) reported drug use. In total, 78.8% of patients have one of the listed bad habits, while only 21.1% have not reported such habits (Pic. 2).



Pic. 2. Distribution of answers to the question "Harmful habits" by gender (relative share)

DISCUSSION

The treatment of chronic vascular diseases and their complications is complex and concern more than one specialty. Vascular surgeons and anghiolgists mainly deal with this disease, but in the event of complications such as lipodermatosclerosis and venous ulcers, the help of dermatologists and plastic surgeons is often sought. The treatment of chronic vascular diseases as well as any other disease begins with prevention. Prevention includes appropriate exercise regime, medication and rehabilitation. The purpose of prophylactic treatment is to slow or stop the development of the relevant vascular disease. Awareness of patients to develop active behavior in chronic vascular disease will help them to have healthier lives and lower stress levels. More than two thirds of the respondents reported a family heredity on the part of the mother, and one third on the part of the father. It was proved that in men the family heredity is significantly more often on the father's side, while in women - more often it is on the mother's side ($p < 0.001$). It is interesting to note that bad habits are significantly more common among men - in the survey there is no man who answered that none of the three listed bad habits, while in women they are below 30%. The sedentary lifestyle and the reduced physical activity slow down the reduction of venostasis or lymphostasis. Smoking is one of the main reasons for the development of chronic arterial insufficiency of the limbs.

CONCLUSIONS

1. The treatment of chronic vascular diseases and their complications is a complex process.
2. The treatment of chronic vascular diseases as well as any other disease begins with prevention.
3. Prevention includes appropriate physical activity, medication and rehabilitation.
4. The purpose of the prophylactic treatment is to slow down or stop the development of the relevant vascular disease.
5. Hereditary factors are an important reason for the development of chronic vascular diseases.
6. Bad habits such as smoking are one of the main reasons for the development of chronic arterial insufficiency of the limbs.

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